

**I. Rejection Under 35 USC 112, Second Paragraph**

At pages 2-3 of the Office Action, various claims are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite, for the following reasons:

- (1) The use of the transitional word "comprising" in claim 1;
- (2) The definitions for the B substituent in various claims, the Examiner suggesting that the word "derivative" be inserted into the claims at various locations for the purpose of clarity;
- (3) The definitions of P1 in claims 36, 37 and 45, are inconsistent with claim 1;

Applicants have amended the claims to specifically address items (1) through (3) above and submit that the amended claims are definite and in compliance with 35 U.S.C. 112, second paragraph. Withdrawal of this rejection is therefore respectfully requested.

**II. Provisos**

Turning to the Examiner's note with respect to the proviso, the only proviso Applicants could identify in claim 1 is in the definition of B, following the definition of R<sub>5</sub>:

"with the proviso that when R<sub>4</sub> is an amide (derivative) or a thioamide (derivative), R<sub>4</sub> is not (ii) cycloalkoxy;"

Indeed, this proviso should read:

"with the proviso that when **B** is a carboxyl derivative, an amide derivative or a

B

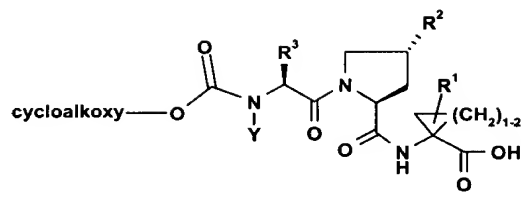
thioamide derivative,  $R_4$  is not a cycloalkoxy.", and claim 1 and the specification have been so amended.

As is apparent from the reading of the original proviso, there was a clear typographical mistake in view of the repetition of  $R_4$  and the fact that  $R_4$  cannot be a thioamide by definition. Also, in view of the fact that only group **B** in the claim can be either an amide or thioamide derivative and only  $R_4$  in the claim can be a cycloalkoxy, one skilled in the art would readily understand that the initial  $R_4$  group was intended to be group **B**. Accordingly, the proviso has been amended to replace the initial " $R_4$ " group with "**B**". This change cannot constitute new matter since, as discussed above, it would be readily apparent to one skilled in the art that there was a mistake present and what the correction should be.

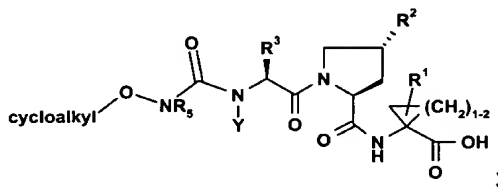
Moreover, it is pointed out that none of the preferred embodiments described in the specification would fall within the provisoed out subject matter of amended claim 1, e.g. see pages 12-16 of the specification. Thus, the specification as filed is consistent with and supports this proviso.

This proviso is needed to exclude compounds that are chemically unlikely or unstable. In this context, Applicants also have added the carboxyl derivative to this proviso. The compounds excluded by this proviso include the following:

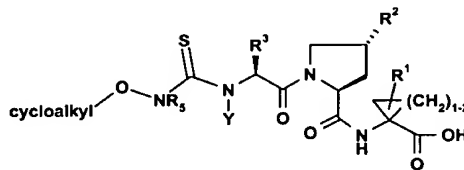
if **B** is a carboxyl of formula  $R_4\text{-O-C(O)-}$  and if  $R_4$  is  $C_{3-7}$  cycloalkoxy; then the resulting structure would be:



if **B** is an amide of formula  $R_4-N(R_5)-C(O)-$  and if  $R_4$  is  $C_{3-7}$  cycloalkoxy; then the resulting structure would be:



if **B** is a thioamide of formula  $R_4-N(R_5)-C(S)-$  and if  $R_4$  is  $C_{3-7}$  cycloalkoxy; then the resulting structure would be:



This proviso in claim 1 was not used up to eliminate compounds known to lack utility or to bring the claims outside the scope of known prior art, as suggested by the Examiner but only to eliminate compounds that are likely to be chemically unstable.

### III. Claim Objections

Various claims are objected to for the following reasons:

B

- (1) Claim 1, the definition of Het embraces heterocycles that are non-elected under the terms of the Restriction Requirement.
- (2) Claims 15 and 19 contain parentheticals for terms defined in the specification and the Examiner suggested deleting the parentheticals;
- (3) Claim 53 is objected to for listing compounds by compound numbers from a table rather than by nomenclature or structure.

With respect to item (1), although the Examiner is correct that these other 5-membered heterocycles are not embraced by Group III of the Restriction Requirement (dated July 26, 2000, in the parent application No. 09/368,866; Attny Docket No. 13/068), Applicants submit that these other related compounds are most appropriately placed within elected Group III and would not constitute an undue examination burden on the Examiner. Applicants respectfully point out that the Examiner's Restriction Requirement set forth in the Office Action of 7/26/00 does not contain any group that would cover these claimed compounds, i.e., in which R<sub>20</sub> contains a pyrimidinyl or quinazolinyl group and Het is a 5-membered heterocycle other than that listed by the Examiner in Group III. Accordingly, given the structural relationship of the compounds - the same R<sub>20</sub> group containing a pyrimidinyl or quinazolinyl (which R<sub>20</sub> group likewise is not covered by any other Group of the restriction) and all having a 5-membered heterocycle in the definition of Het - Applicants submit that all these related compounds should be examined together in this application (directed to Group III). No other Group of the Restriction Requirement contains compounds that are more closely related.

In addition, Applicant submit that it would not be an undue burden to examine all the claimed compounds given their structural relationship. As the Examiner is aware, it is the R<sub>20</sub> pyrimidinyl or quinazolinyl group that will control

the classification, not the 5-membered heteroring - i.e., all the claimed compounds will be classified in Class 546 as indicated for Group III.

For the above reasons, Applicants strongly believe that all the claimed subject matter should be examined together. If the Examiner maintains this requirement, the Examiner is respectfully requested to identify which Group of the Restriction Requirement would cover the compounds that the Examiner would have Applicants cancel from the claims and provide reasons as to why these compounds to be canceled are more appropriately examined in such other Group.

With respect to item (2), Claims 15 and 19 have been amended as suggested.

With respect to item (3), Applicants traverse. Applicants submit that claim 53 does particularly point out and distinctly claim the subject matter of the invention since all the numbered compounds are specifically and clearly identified by structure in the preceding claim. Applicants are not aware of any regulation prohibiting the use of compound numbers in a claim when the compound numbers clearly identify the compound intended. The Patent Rules (37 C.F.R. § 1.58) also provide that "claims may contain tables either if necessary to conform to 35 U.S.C. 112 **or if otherwise found to be desirable**" (emphasis added). Applicants submit that it is desirable to use tables with compound numbers and to refer to these compound numbers in dependent claims because this is a much more efficient use of space and is unambiguous.

Various claims also stand objected to as depending from a rejected base claim. Applicants submit that all the claim rejections have been overcome. Accordingly, this objection should be withdrawn.

U.S. Appln. No. 09/675,398  
Amendment


In view of the above, the Examiner is respectfully requested to reconsider and withdraw these objections.

**Conclusion**

In view of the above amendments and remarks, Applicants respectfully submit that this application is now in condition for allowance and earnestly request such action.

If any points remain at issue which can best be resolved by way of a telephonic or personal interview, the Examiner is kindly requested to contact the undersigned attorney at the local telephone number listed below.

Respectfully submitted,



Philip I. Datlow  
Reg. No. 41,482

B

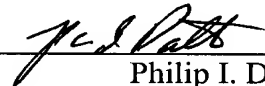
U.S. Appln. No. 09/675,398  
Amendment

Patent Department  
Boehringer Ingelheim Corp.  
900 Ridgebury Road  
P.O. Box 368  
Ridgefield, CT 06877  
Tel: (203) 798-4542  
Date: July 16, 2001

Certificate of Mailing

I hereby certify that this correspondence is being deposited with the U.S. Postal Service with sufficient postage as first class mail in an envelope addressed to:

Assistant Commissioner For Patents  
Washington, DC 20231  
on July 16, 2001 .



Philip I. Datlow

B